

REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

Applicants have amended claim 1 solely to clarify the claim. Claim 6 has been amended solely to correct a typographical error contained therein. Claim 22 remains cancelled. No new matter has been added. Accordingly, claims 1-21 and 23-26 are pending.

Claim 1 has been amended to clarify that (i) the metal salt comprised by the shell is non-luminescent, or (ii) the respective energetic distances between the electronic ground state and the first excited state of the luminescent metal salt comprised by the core and the metal salt comprised by the shell do not allow the transfer of the excitation energy from the excited core to the shell. Support for the features of (i), i.e., a first embodiment, is found at, for example, page 7, lines 11-13 of the application as filed. Support for the features of (ii), i.e., a second embodiment, is found at, for example, page 10, lines 5-32 of the application as filed.

In the Office Action, the Examiner has imposed a provisional non-statutory obviousness-type double patenting rejection on claims 1-26 in view of claims 1-28 of copending Application No. 10/554,765. However, Applicants traverse the rejection for the reason that the current claims specify that the core is luminescent, and in addition, as amended, that either (i) the shell is non-luminescent, or (ii) the composition of the shell and core are such that a transfer of excitation energy from the core to the shell is not allowed. In contrast, the claims of the copending application specify, as concurrently amended, that the shell is luminescent, and furthermore, either the core is non-luminescent or a transfer of excitation energy from the core to the shell is allowed.

Accordingly, as shown above, the instant claims remain patentable over claims 1-28 of copending U.S. Patent Application Serial No. 10/554,765. Applicants therefore respectfully request that the provisional nonstatutory obviousness-type double patenting rejection applied by the Examiner be withdrawn.

The Examiner also rejected claims 1-21 and 23-26 under 35 U.S.C. § 103(a) as allegedly unpatentable in view of German Patent DE 101 31 173 ("DE '173") in further view of Japanese Patent 01-318,078 ("JP '078"). The Examiner considers DE '173 to teach the core-shell luminescent nanoparticles of claim 1, while JP '078 is relied upon to allegedly teach specific compositions of the claimed nanoparticles.

DE '173 teaches a core-shell nanoparticle wherein the core comprises an inorganic oxide nanoparticle and the shell comprises an inorganic oxide/hydroxide material (e.g., par. 0001 therein).

In contrast, claim 1 of the present application specifies that the shell comprises a metal salt. As understood in the art, a metal salt does not include an oxide or a hydroxide of a metal. Support for this is provided in an attached reference (Rompp Chemie Lexikon, 9th Ed., Georg Thieme Verlag, (c) 1993 pp. 3976-3977) under the entry "Salze". An informal translation of the entry starting two lines from the bottom of the page is provided as follows:

Inorganic salts (metal salts) are obtained from the elements during the reaction of metals, metal oxides, metal hydroxides, or carbonates with acids or acid anhydrides, as well as during the reaction of metal salts among each other or with elements; for example: [note that several examples are then given of metal oxides or hydroxides reacting with acids to produce salts]


Additional support for this concept is provided in Hawley's Condensed Chemical Dictionary, 12th Ed., Van Nostrand Reinhold Co., (c) 1993, p. 1020, which is also attached herein.

The deficiencies of DE '173 discussed above are not compensated in any way by JP '078. JP '078 does not teach or suggest core-shell luminescent nanoparticles as delineated by the present claims. In particular, JP '078 teaches coating the surface of a particle of a phosphor "(a)" with conductivity-imparting oxide particles "(b)" of the formula $\text{In}_2\text{Ti}_x\text{M}_y\text{O}_5$. Therefore, JP '078 parallels the teaching of DE '173 that a core is coated by an oxide shell. As already elaborated upon above, claim 1 of the present application is clearly distinguished from both DE '173 and JP '078 by at least the requirement in the claim that the shell comprises a metal salt. Evidence has been provided above showing that a metal salt, as understood in the art, does not include an oxide or a hydroxide of a metal.

Accordingly, the combination of DE '173 with JP '078 is similarly deficient, and hence, does not render the claims obvious. Thus, in view of the above, this rejection under 35 U.S.C. §103(a) is obviated and withdrawal thereof is respectfully requested.

For all the reasons provided, Applicants consider the claims, as amended, to be patentable. Accordingly, allowance of the pending claims is earnestly requested.

Respectfully submitted,



Leslie S. Szivos, Ph.D.
Registration No. 39,394

Scully, Scott, Murphy & Presser, P.C.
400 Garden City Plaza, Suite 300
Garden City, New York 11530
(516) 742-4343
LSS/EG:gc